



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/713,608

11/14/2003

Vincent M. Kane

18087

2527

7590

06/29/2007

Robert J. Kapalka
Tyco Technology Resources
Suite 140
4550 New Linden Hill Road
Wilmington, DE 19808

EXAMINER

BUI, HUNG S

ART UNIT

PAPER NUMBER

2841

MAIL DATE

DELIVERY MODE

06/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Oath/Declaration

1. The oath/declaration filed on 11/14/2003 is acceptable.

Information Disclosure Statement

2. The IDS filed on 02/19/2004 and 5/10/2004 have been considered and made of record.
3. In view of the appeal brief filed on 01/17/2006, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid. A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 14 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. [US 5,998,738] in view of Aoki [US 2003/0049972].

Regarding claim 1, Li et al. disclose an electronic module (40, figure 6, column 4, line 26), comprising:

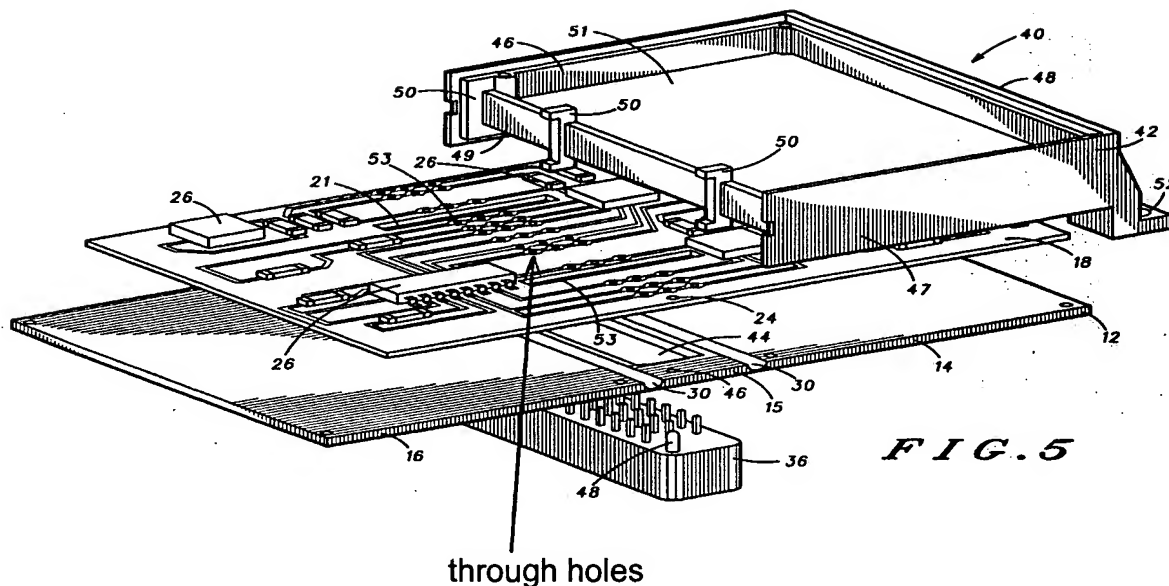
- a casing (42, figure 5, column 4, line 39) defining a cavity therein (a space created by the housing 42 and two side walls 14, 15 and 16 as shown in a figure 7), the casing having at least one opening (44, figure 5, column 4, line 34) therethrough for communication with the cavity;
- a substrate (18, figure 5, column 4, line 41) received in the cavity, the substrate having a plurality of through holes (see attached figure 5 below) positioned adjacent to and overlapping with the opening;
- a connector header (36, figures 5-6, column 4, line 29) positioned over the casing opening, the connector having a plurality of electrical terminals (38, figures 4-6, column 3, line 60), with first portions positioned exterior of the cavity (a plurality of electrical terminal portions protruded outward as shown in figure 6), and second portions extending into the cavity (a plurality of electrical terminal portions protruded into the cavity as shown in the figures 4 and 7)

and into the through holes of the substrate forming an electrical and mechanical connection therewith.

Lin et al. disclose the instant claimed invention except for wherein the mechanical connection at least partially retains the connector header and substrate to the casing.

Aoki discloses an electronic connector (figure 5b) having a plurality of electrical terminals (7, figure 5b, page 1, paragraph 001, line 7), with first portions protruded outward into the electrical connector (see figure 5b) and a second portions extending into a plurality of through holes being mounted on a substrate (11, figure 5b, page 3, paragraph 0057, line 11) forming an electrical and mechanical connection therewith, wherein the mechanical connection at least partially retains the connector and the substrate together.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the electrical terminal pin design of Aoki for the pins of Lin et al. for the purpose of providing to secure the connector header within the casing (page 3, paragraph 0057, lines 5-11).



Regarding claim 14, the recited method steps would necessarily be performed in the assembly of the above-mentioned system as claim 1.

Regarding claim 25, Lin et al., as modified, disclose wherein the connector header, casing and substrate are attached to each other simultaneously (see figures 5-7).

Regarding claim 26, Lin et al., as modified, disclose wherein the connector header casing and substrate are attached to each other by a single movement towards each other along the mating axis (see figures 5-7).

6. Claims 2-13 and 15-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al., as modified, as applied to claim 1 above, and further in view of Pratt et al. [US 6,652,292].

Regarding claim 2, Lin et al., as modified, disclose a planar wall (15, figure 5, column 4, line 21) having a plurality of upstanding walls (14 and 16, figure 5) the opening extending through the planar wall.

Lin et al., as modified, disclose the instant claimed invention except for the upstanding walls being a peripheral extending from the planar wall to create a cavity.

Pratt et al. disclose a planar wall (28, figure 3, column 3, line 37) having at least one through opening (20, figure 3, column 3, line 32); the planar wall having a peripheral walls (16, figure 4, column 3, line 31) extending therefrom to create a cavity (a cavity as shown in the figure 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the cavity design of Pratt et al. for the casing of Lin et al., as modified, for the purpose of protecting substrate therein the casing.

Regarding claim 3, Lin et al., as modified, disclose wherein the terminal second portions are compliant pin sections (see figure 7).

Regarding claim 4, Lin et al., as modified, disclose wherein the substrate is a printed circuit board, and the through holes are plated and interconnected to traces on the circuit board (see figure 5).

Regarding claim 5, Lin et al., as modified, disclose at least one component (26, figure 5, column 2, line 57) being mounted on the circuit board (see figure 5).

Regarding claim 6, Lin et al., as modified, disclose the instant claimed invention except for wherein the casing further comprises an upstanding sealing wall in a surrounding relation to the opening.

Pratt et al., further disclose the casing comprising an upstanding sealing wall (38, figure 3, column 3, lines 46-47) in a surrounding relation to the opening (see figure 3).

Art Unit: 2841

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the sealing wall design of Pratt et al. with the opening of the casing of Lin et al., as modified, for the purpose of providing seal the opening of the casing.

Regarding claims 7-8, Lin et al., as modified, disclose the instant claimed invention except for the connector header has a sealing groove with a complementary geometry as the upstanding sealing wall and is received therein.

Pratt et al. disclose the casing having a sealing groove (22, figure 3, column 3, line 33) including a seal member (36, figure 3, column 3, lines 44-45) with a complementary geometry as the upstanding seal wall and being received therein.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the groove design of Pratt et al. in Lin et al., as modified, for the purpose of aligning and sealing the connector header with the casing.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the groove seal wall on the connector header of Lin et al., as modified, as suggested by Pratt et al., since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167.

Regarding claim 9, Lin et al., as modified, disclose the instant claimed invention except for the connector header having a mounting surface which extends at least partially into the opening.

Pratt et al. disclose the connector header having amounting surface (38, figure 5, column 3, line 47) which extends at least partially into the opening (see figure 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the flange design of the connector header of Pratt et al., in Lin et al., as modified, for the purpose of providing an abutment of the mounting surface of the connector header relative to the opening of the casing (column 3, lines 46-49).

Regarding claim 10, Lin et al., as modified, disclose wherein the header mounting surface is adhesively fixed to the substrate (31, see figure 7, column 3, lines 58-59).

Regarding claims 11 and 13, Lin et al., as modified, disclose wherein the header mounting surface is adhesively fixed to the casing (column 4, lines 60-64).

Regarding claim 12, Lin et al., as modified, disclose the instant claimed invention except for the casing having at least two openings connected together by at least a strap portion, the connector having raised portions being connected to the openings.

Pratt et al. disclose the casing has two elongate openings (20, figure 3), with an intermediate strap portion (the strap portion between any two openings 20 and including the inner wall), the connector header having raised portions (34, figure 3, column 4, line 13) adjacent the compliant pin portions, received in the openings and a mounting portion intermediate the raised portion, received in the openings, and a mounting portion intermediate the raised portions (54, figure 3, column 4, line 4, lines 21-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the strap design of Pratt et al., in Lin et al., as modified, for the purpose of providing a support to mount the connector header onto the casing.

Regarding claims 15-16, the recited method steps would necessarily be performed in the assembly of the above-mentioned system as claims 2-3.

Regarding claims 17-24, the recited method steps would necessarily be performed in the assembly of the above-mentioned system as claims 6-13.

Response to Arguments

7. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

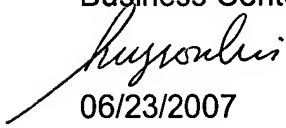
- Snider [US 6,606,252] disclose fastener detection for encased electrical assembly;
- Mosquera et al. [US 5,181,855] disclose simplified contact connector system;
and
- Spasevski et al. [US 2003/0161110] disclose electronic control module for a vehicle.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung S. Bui whose telephone number is (571) 272-2102. The examiner can normally be reached on Monday-Friday 8:30AM-6:00PM.

Art Unit: 2841

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A Reichard can be reached on (571) 272-1984. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



06/23/2007

Hung Bui

Art Unit 2841